FORESIGHT FOR FUTURE PLANNING TRAINING Toolkit

SERIES 3

Cultivating the Climate Resilient Future

CCARDESA Centre for Coordination of Agricultural Research and Development for Southern Africa

CAADP XP4 PROGRAMME

IFAD Investing in rural people

CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security CCAFS

IDA

AICCRA Accelerating the Impact of CGIAR Climate Research for Africa

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Contact:
CCAFS Program Management Unit, Wageningen University & Research, Lumen building, Droevendaalsesteeg 3a, 6708 PB Wageningen, The Netherlands. Email: ccafs@cgiar.org

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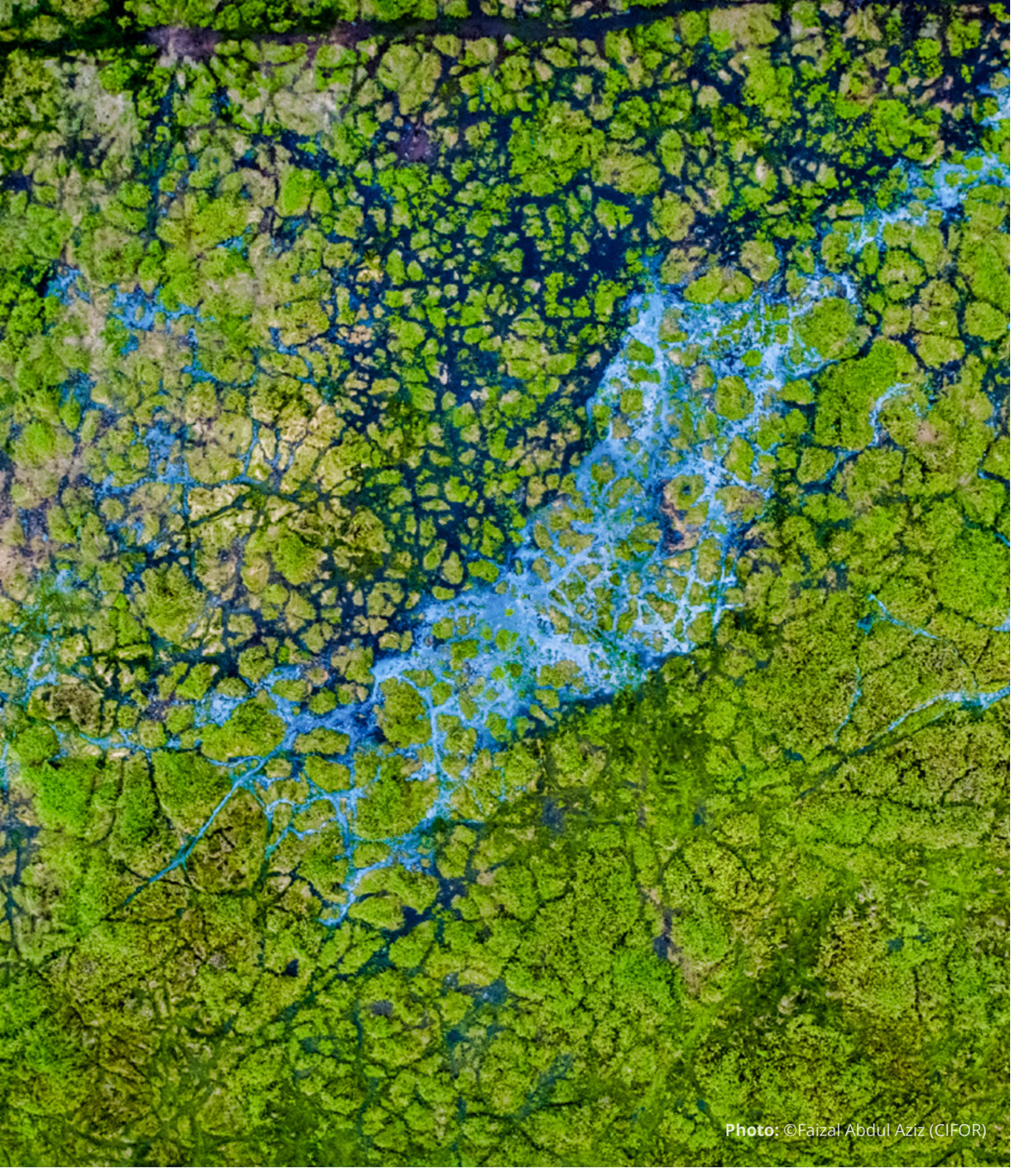
ACRONYMS AND ABBREVIATIONS

AICCRA	Accelerating Impacts of CGIAR Climate Research for Africa
AU	African Union
CAADP-XP4	Comprehensive Africa Agriculture Development Programme ex Pillar 4 Programme
CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa
CSA	Climate-Smart Agriculture
DRC	Democratic Republic of Congo
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
M&E	Monitoring and Evaluation
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programme of Action
NDC	Nationally Determined Contribution
NDP	National Development Plan
NFCS	National Framework for Climate Services
NGO	Non-Governmental Organisation
NRM	Natural Resource Management
Q&A	Question and Answer
RISDP	Regional Indicative Strategic Development Plan
SADC	Southern African Development Community
SDG	Sustainable Development Goal
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change



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ABOUT THE TRAINING SERIES

The Foresight for Future Planning Training Series was organised by the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA) and supported by the Comprehensive Africa Agriculture Development Programme ex Pillar 4 (CAADP-XP4) programme funded by the European Union (EU) and administered by the International Fund for Agricultural Development (IFAD). The series was produced by foresight specialists supported by the Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) project and funded by the International Development Association (IDA) of the World Bank.

The Foresight for Future Planning Training Series is a four-part training series for applying foresight to address climate change impacts and uncertainties. The training series equips users to practically apply a range of foresight tools and methods for innovative research in development prioritisation, specifically assisting in strategic planning and policy formulation for climate-relevant transformation in agriculture and food systems.

The training series has been designed for policy makers, technical officers, advisory services, researchers and academicians from regional and national government linked to agriculture, food systems and climate change across the Southern African Development Community (SADC) region.

The objectives of the Foresight for Future Planning Training Series are to:

1. Introduce the foresight method as an approach to catalyze transformational planning.
2. Demonstrate the practical and concrete foresight tools and methods.
3. Demonstrate the methods and approaches using the context of climate resilience in food systems and agriculture in the SADC region.

CCARDESA Centre for Coordination of Agricultural Research and Development for Southern Africa · CAADP XP4 PROGRAMME · IFAD Investing in rural people · CGIAR Research Program on Climate Change, Agriculture and Food Security · CCAFS · IDA · AICCRA Accelerating the Impact of CGIAR Climate Research for Africa

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STRUCTURE OF THE TOOLKIT

The toolkit is presented in four series:

Series 1 Setting the Stage

- Introduction to Foresight
- Transformational Planning
- Climate Resilient Food Systems

Series 2 Bringing Evidence to Bear

- Trends Analysis
- System Thinking
- Causal Analysis

Series 3 Cultivating the Climate Resilient Future

- Developing scenarios
- Using scenarios to inform future interventions

Series 4 Pathways to a Desired Future

- Visioning
- Backcasting
- Prioritisation and Transformative Pathways for Long-term Impacts

THE TRAINING APPROACH

The training approach follows the process of presenting a foresight method or tool, introducing the key steps as to how and when to apply it and then demonstrating its application in the context of agricultural development and climate resilience.

1. INTRODUCE THE FORESIGHT METHOD OR APPROACH
2. UNPACK THE KEY STEPS OF METHOD OR TOOLS
3. HOW AND WHEN TO APPLY DIFFERENT STEPS OF METHOD TOOL
4. DEEPER UNDERSTANDING OF THE CONTENT
5. GIVE EXAMPLES RELATED TO AGRICULTURE AND CLIMATE RESILIENCE

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Series 3

CULTIVATING A CLIMATE-RESILIENT FUTURE

This series introduces **causal analysis** and **thinking in systems**. It then outlines how to **develop scenarios** to explore possible **future pathways**. The next step is an introduction to developing scenarios which requires **identifying drivers of change**. Lastly, a demonstration on how to develop different and **plausible scenario narratives** is given.

In summary, the objectives of this series are:

1. Examine **causal analysis and working in systems** within a foresight process.
2. Introduce the **development of scenarios** to explore possible futures.
3. Identify **drivers of impact and uncertainty**.
4. Demonstrate concretely how to develop different and plausible **scenario narratives**.

The flow of this series follows the learning objectives. As with the previous series, learning exercises and Q&As are included throughout to encourage a mind shift to that of a foresight practitioner.

Series
3

SESSION 3 OVERVIEW

Scope and trends re-cap

Casual analysis & systems

Steps in the scenario process

Building scenario storylines

Different dimensions for future storylines

Recap on bringing evidence to bear

This **recap focuses on trends and trends analysis as well as setting up a foresight exercise**, the topics that were covered in Series 2. First, to reiterate, foresight and specifically strategic foresight is the ability to create high-definition forward views, and to apply them in an organised way. This training series introduces a set of tools and methods and demonstrates how to apply them to look ahead and plan for the future.

LEARNING EXERCISE

Based on my participation in the last session(s), one thing I learned is...

"Evidence"

"Analysing trends"

"Horizon scanning"

"Building relationships with stakeholders"

"Trends analysis"

"Trends"

"STEEP, stakeholder maps and timelines"

"Systems approach"

"Four key questions of foresight"

"Imagining many different possible futures"

"Climate-related shocks"

"Agri-food themes"

"Transformative change"

LEARNING EXERCISE

The acronym _____ helps me ensure that I am looking at multiple dimensions when I try to understand trends.

S Social

T Technological

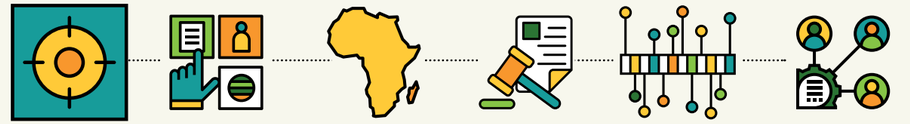
E Economic

E Ecological / Environmental

P Political

LEARNING EXERCISE

What do you need to know when defining the scope for your foresight exercise?



At the top frontend of the foresight framework is the situational analysis. This part of the process assists us in understanding **'what is happening?'** and **'why it is happening?'** The backend of the framework is focused on long-term future planning.

This part of the process encourages you to ask, **'what might be the future we want to see happening?'**, **'what might we need to do differently?'** and **'what might happen that we have not thought about?'** The shift between the two stages requires a critical change in mindset, to be able to envision very different futures to the present.

Series 3

DATA, EVIDENCE, KNOWLEDGE AND CREATIVITY

STAKEHOLDER ENGAGEMENT AND PARTICIPATION

SITUATIONAL ANALYSIS

LONG TERM FUTURE PLANNING

Input

Context

- Scope

Analysis

What is happening?

- Trend Analysis
- Horizon Scanning

Interpretation

Why is it happening?

- Systems Mapping
- Cross sectoral and multi-stakeholder approaches

Plan

What do we want to experience in the future? What might get in our way?

- Visioning
- Causal Analysis
- Stakeholder Analysis

What might we do to get there?

- Backcasting
- Pathway Development & Trade-offs

Prospection

What might happen that we have not thought about?

- Developing Scenarios

Reflection

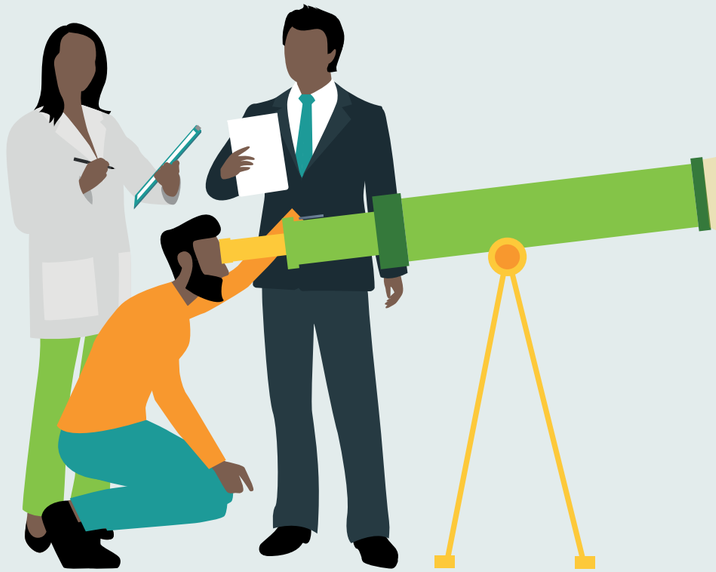
What might we want to do differently?

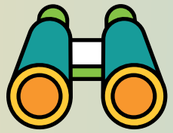
- Scenario Implications
- Transformation Actions

Strategy

What will we do differently?

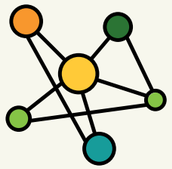
- Develop Road Map





It is important to remember that there is no standardised way of doing foresight.

The tools, methods and approaches that you apply are dependent on the theme or topic in question.



Thinking in systems and causal analysis

As part of the situational analysis stage, the identified trends need to be analysed. The key question to consider is: **'why is it happening?'** Causal analysis assists us in answering this.

SITUATIONAL ANALYSIS			LONG TERM FUTURE PLANNING			
Input	**Analysis**	**Interpretation**	**Plan**	**Prospection**	**Reflection**	**Strategy**
Context	What is happening?	Why is it happening?	What do we want to experience in the future? What might get in our way?	What might happen that we have not thought about?	What might we want to do differently?	What will we do differently?
			What might we do to get there?			

Causal analysis is used to investigate the evidence and ask, **'what is really happening?'**, i.e. not what do we perceive to be happening.

When planning or deciding what our interventions are, it is common to treat the symptoms instead of the root causes of our issues. Therefore, root cause analysis is so critical in a foresight process—but what is root cause analysis?

KEY TERM

Root cause analysis or simple **causal analysis** is used to understand what issues underpin identified barriers to achieving a desired outcome.

IDENTIFYING BARRIERS

The first step in **root cause analysis** is to **identify and unpack the barriers** to **reaching a preferred outcome**.

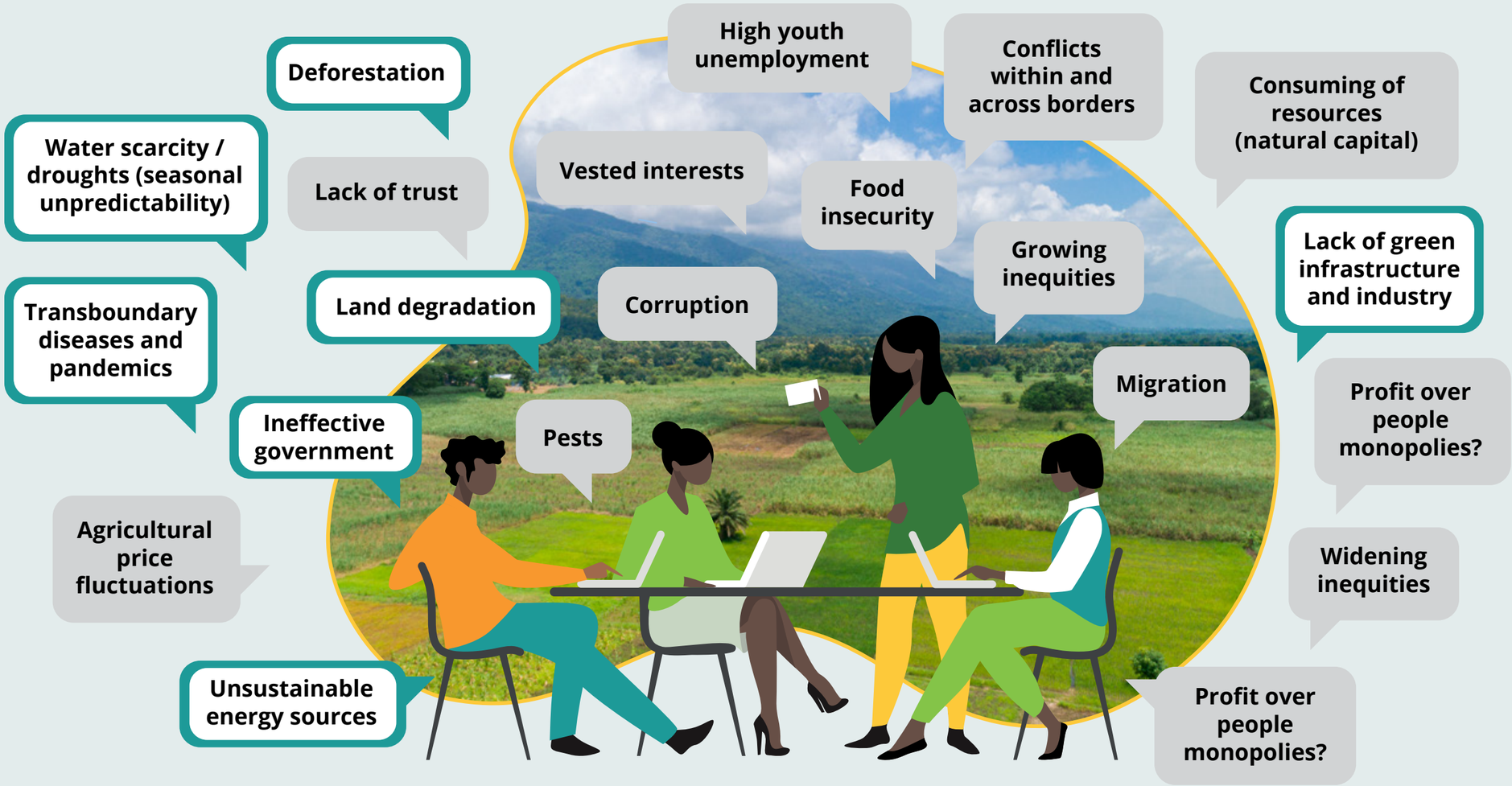
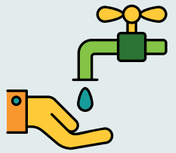


Photo: ©Nohaom Tesfaye (UNICEF)



Example: Consider water scarcity as the issue in question.

What are the likely causes and what are the implications if no action is taken?

One of the issues faced is the overuse of available water resources.

But what is causing it?

Is it a lack of awareness in urban users, an issue of unequal access, overexploitation due to greed or a lack of knowledge on water conservation practices?

Perhaps there are poor water management policies in place, or the policies are in place but are not being implemented?

Another underlying cause could be that there is no cross-sectoral coordination, i.e. water use in the agricultural sector may not take into account water use in the tourism or energy sector.

Could the cause of water scarcity be due to poor land management resulting in a loss of groundcover leading to the siltation of dams?

The implications of water scarcity are very serious such as increased time poverty for women and girls as they are forced to walk further to seek water, a loss of tourism, conflict, migration, electricity shortages, etc.

WATER SCARCITY

IMPLICATIONS

Loss of livelihoods

Increased marginalisation of women and girls

Loss of tourism

Increased time seeking water by women and girls

Migration

Conflict over water resources

Increased disease prevalence

Lack of safe drinking water

Lack of water for sanitation

Reduced capacity to adapt to climate change and shock events

Electricity loss due to low water levels in dams

CAUSES

Unequal access to water resources

Overuse of available water resources

Exploitation by large scale agriculture and other corporations

Lack of conservation orientation

Greed

Lack of awareness of urban users

Lack of, or ineffective, water management policies

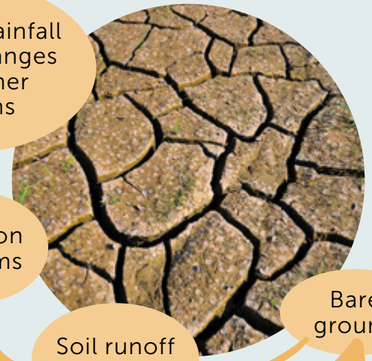
Single sector orientation, lack of integrated development plans

Unsustainable agricultural practices

Lack of education, awareness and information availability

Weak or ineffective extension services

Reduced rainfall due to changes in weather patterns



Siltation of dams

Soil runoff from land

Bare ground

Poor land management

Loss of biodiversity, loss of vegetation cover and loss of soil

Photo: Clockwise from Top Middle ©Nohaom Tesfaye (UNICEF), Neil Palmer (CIAT), Danyell Odhiambo (ICRAF)

By unpacking the **causes of water scarcity,** it becomes obvious that there are multiple dimensions at play, such as social, economic, political, institutional and environmental dimensions.

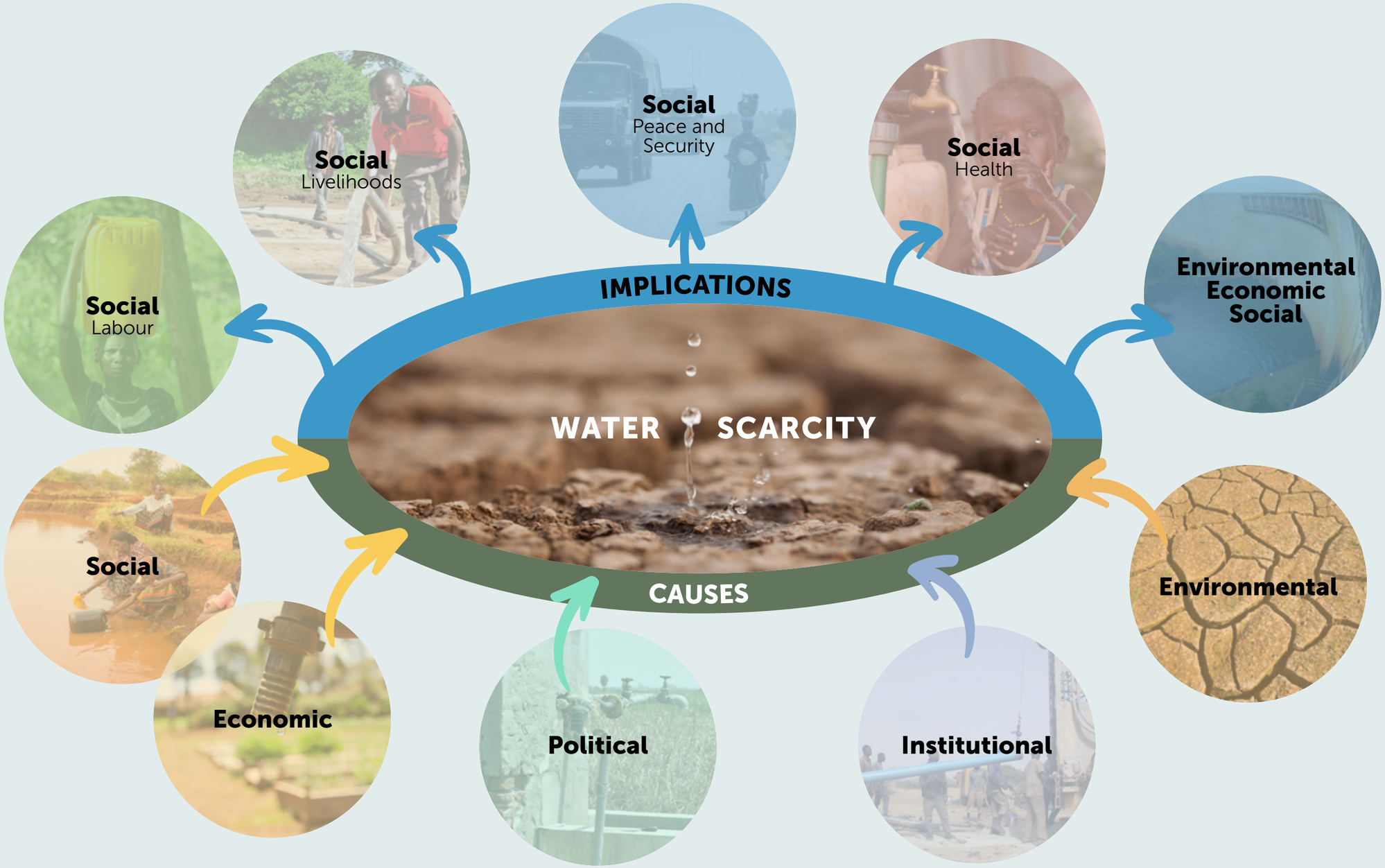


Photo: Clockwise from Top Middle ©Nohaom Tesfaye (UNICEF), Neil Palmer (CIAT), Danyell Odhiambo (ICRAF)

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Another important consideration in **undertaking a causal analysis** is that people's perceptions or beliefs can also form barriers to reaching the preferred future. So, when addressing these issues, try to determine whether there is a deeply held belief or perception that could be preventing a solution.

LEARNING EXERCISE

A perception or strongly held belief about water scarcity that I am aware of is...

"The gods are unhappy!"

"Water was blocked deliberately by the government"

"There is enough water in the world"

"The sin of people"

"Not following traditional rules"

"Lack of storage facilities"

"Overuse"

"Climate change"

"Misuse"

"Lack of planning"

"Poor farming practices"

LEARNING EXERCISE

Given this causal analysis, I would definitely invite _____ and _____ as stakeholders to plan for solutions to water scarcity.

"Community representatives"

"Local government"

"Government departments"

"Traditional leaders"

"Entrepreneurs and scientists"

"Water affairs ministry"

"As many diverse stakeholders as possible"

"Universities"

"NGOs"

"Policymakers"

"Farmers, traditional leaders and government"

"Consumers and the water regulatory body"

"Community, policy makers and technical stakeholders"

"International community: experts in water"

It is important to identify and **engage with stakeholders** in the early stages of a **foresight process**. Some examples of the wider network of stakeholders to engage with on the issue of water scarcity are provided below:

ENGAGING A WIDER NETWORK OF STAKEHOLDERS

Government

- Water Department
- Land Department
- Agricultural Department (livestock, aquaculture, crop production, extension)
- Environment/NRM Department
- Health Department
- Finance and Planning
- Trade Department
- Education Department
- Department of Culture, Youth, Gender

Civil Society

- Large, medium and small scale farmers' organisations
- Health, education, agricultural, environmental International and local NGOs
- Youth groups and entrepreneurs
- Women's Organizations
- Community Based Organizations

Private Sector

- Agricultural and Tree Product Companies
- Aggregators and Processors
- Local Farmers' Markets
- Sustainable Charcoal and Woodfuel Vendors
- Transportation companies
- Forestry, Wildlife, Tourism operators

Others

- Research Institutions
- UN: FAO, UNEP, UNICEF
- Media
- Bilateral Donors

Series
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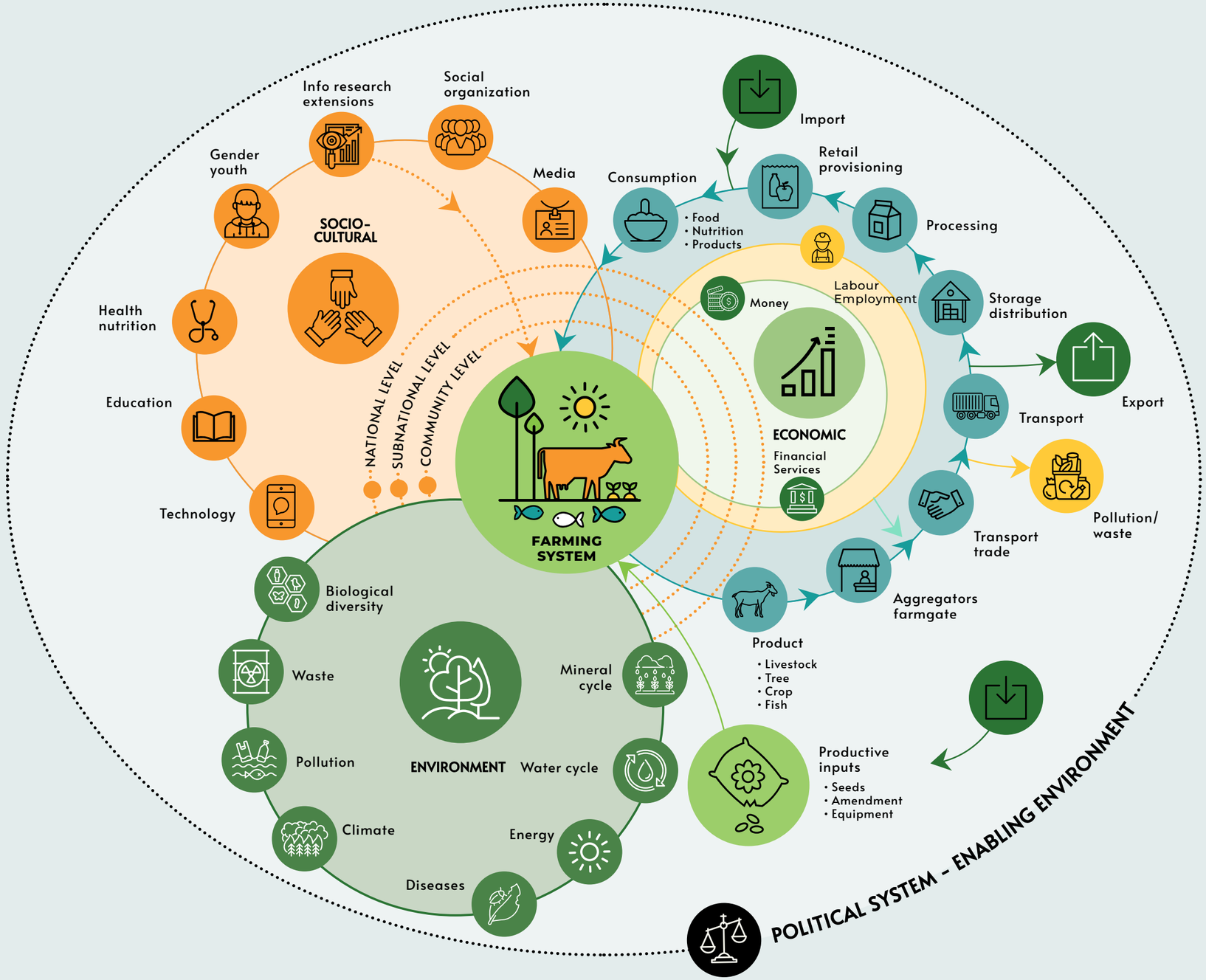
Future planning within a system

The theme for the foresight process demonstrated in this training series is climate-resilient food systems. To reiterate, the theme is complex and involves a variety of different dimensions, i.e. social, economic, environmental, cultural and political dimensions. It is useful to map out the system that you are working within so that you can clearly see the relationships and interchanges between the different actors and develop a clear, holistic view. **When we understand the system that we are working in, we have a better sense of how drivers of change impact different dimensions of the system**.

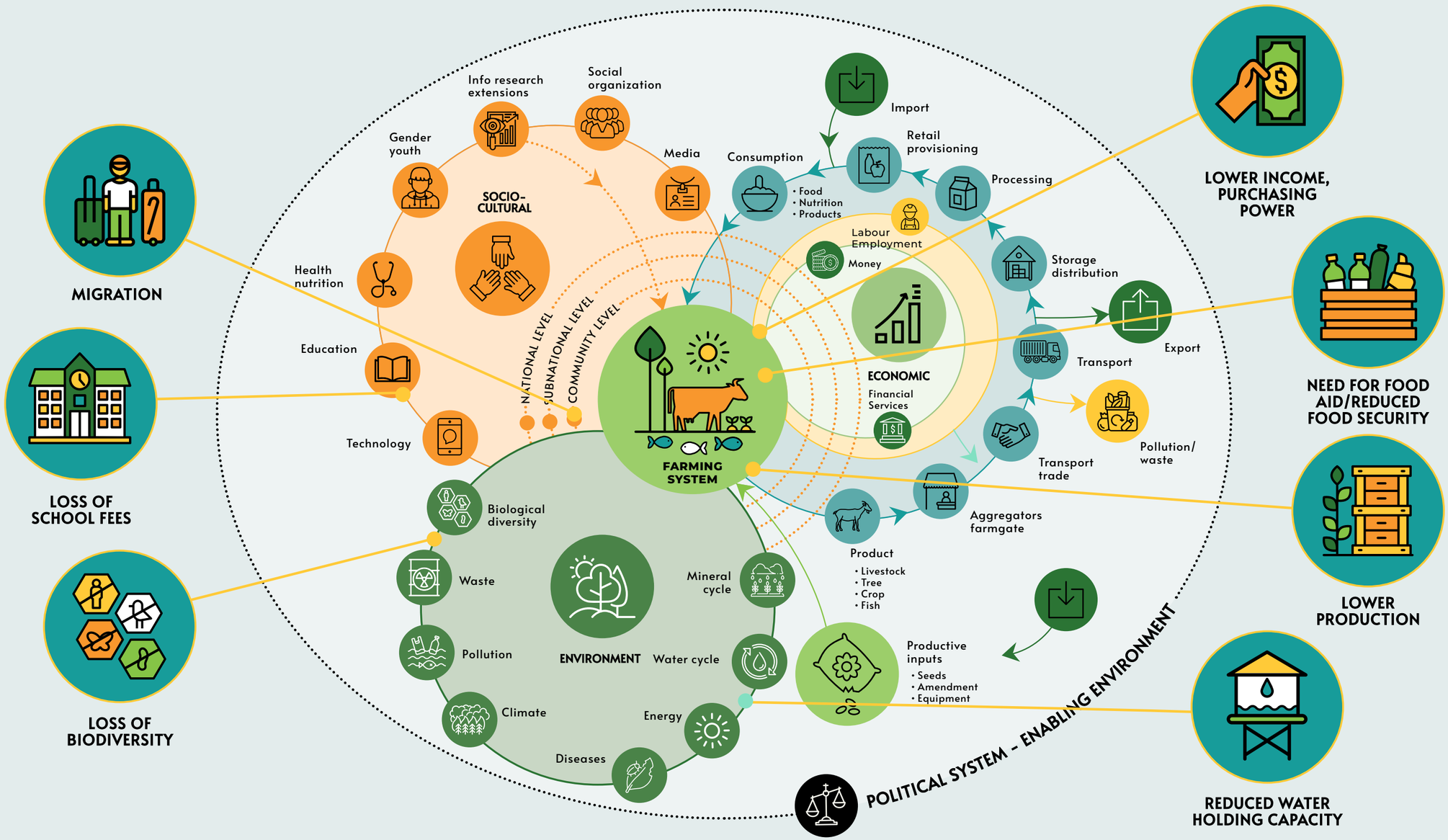
INTEGRATED COMPONENTS OF A FOOD SYSTEM



For example, consider an **environmental driver** such as land degradation, what impact does it have on the system?

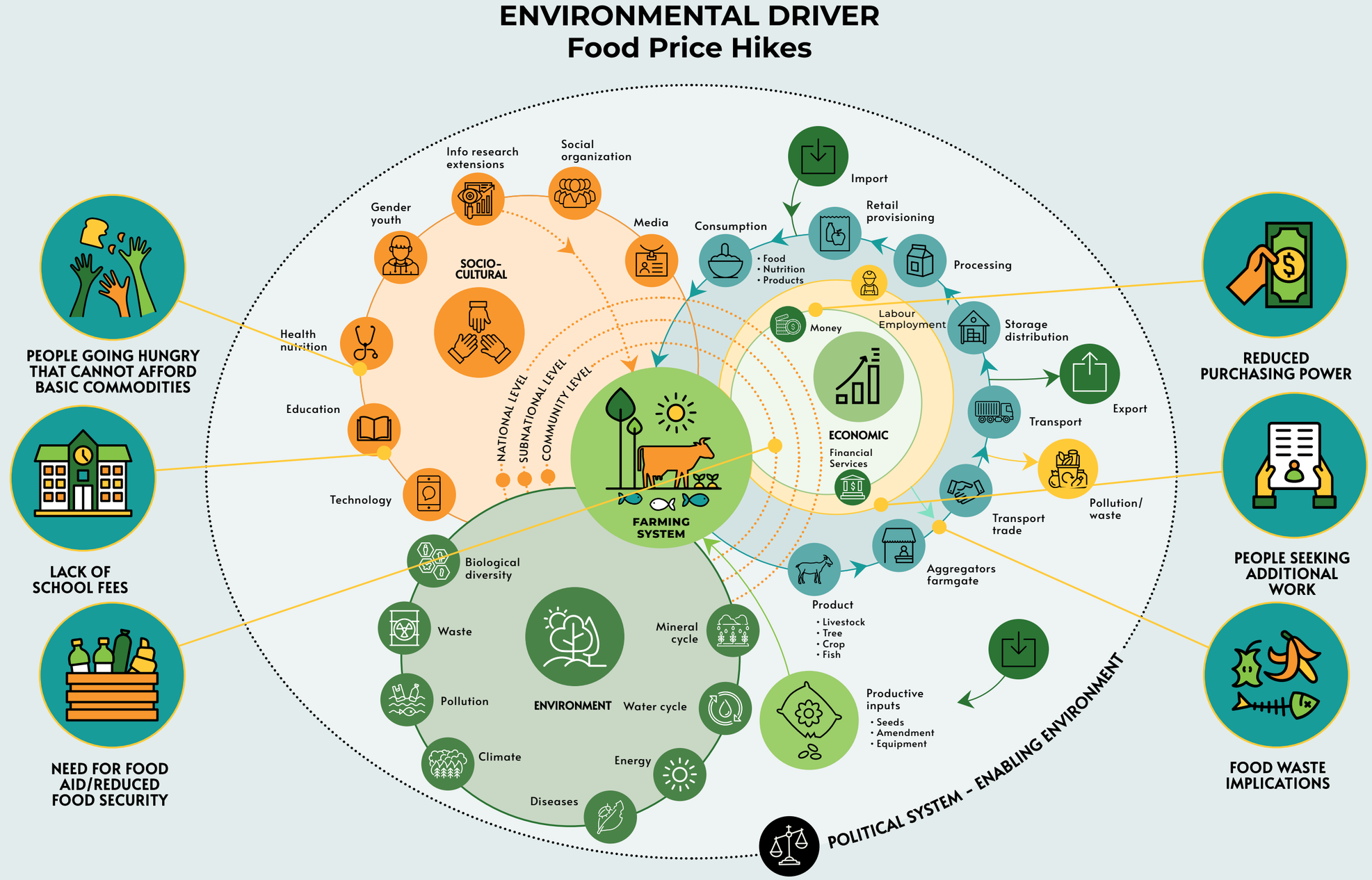
Land degradation could cause food insecurity and poverty, school fees may become unaffordable, and people could be forced to migrate.

ENVIRONMENTAL DRIVER
Land Degradation



Another example is an **economic driver** resulting in food price hikes. This could result in impacts such as the inability to pay school fees, a need for food aid, basic commodities could become unaffordable, etc.

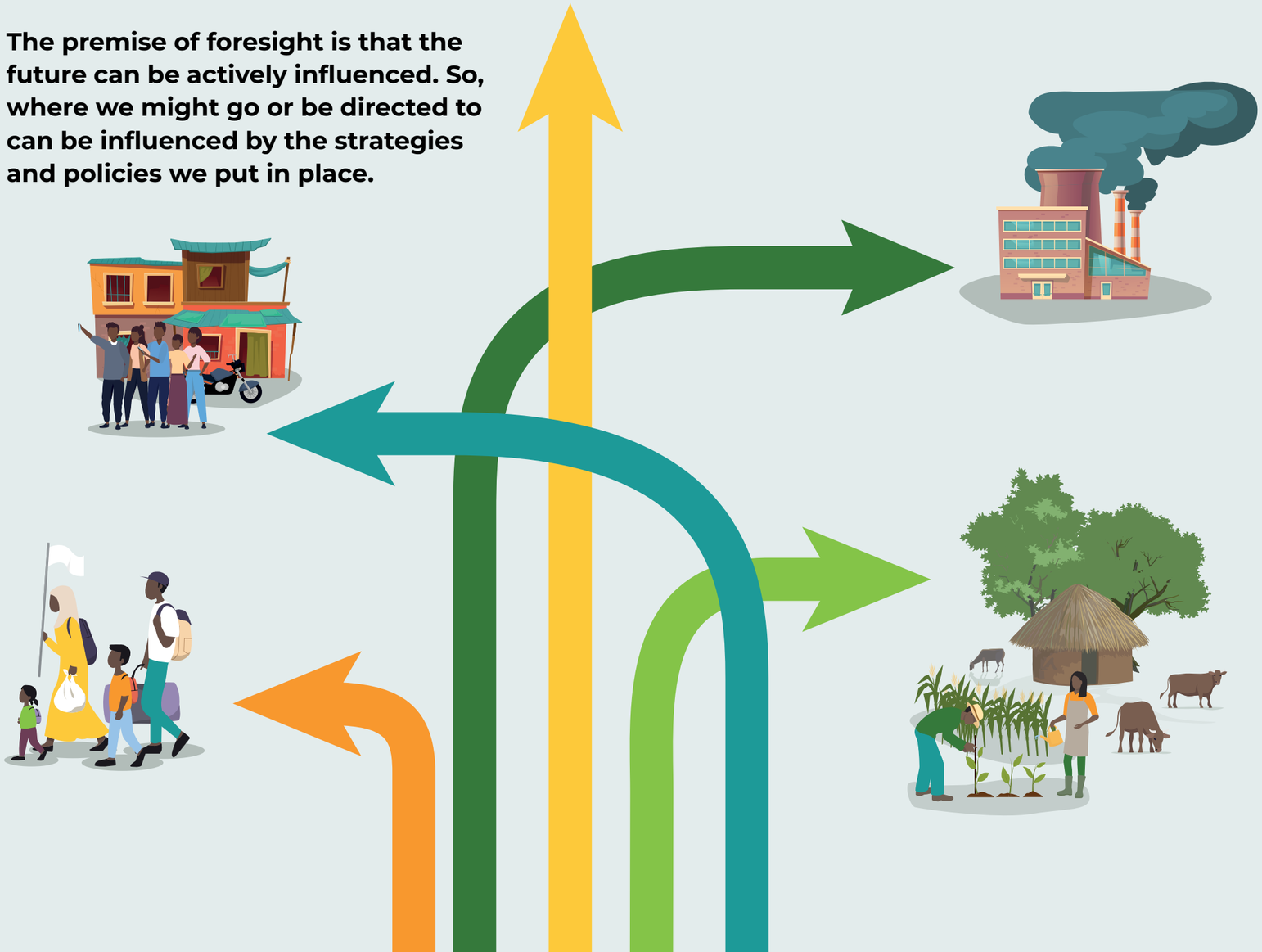
There are many other drivers that you could unpack such as youth employment, a lack of regional integration, political unrest, etc.



Introduction to scenario development

The next stage of the framework is where we ask **'what might happen?'** One of the key skills of a foresight practitioner is being able to imagine different possible futures. Having a curious mind helps a foresight practitioner to investigate trends and evidence and start to think **'what might happen in the future?'**

The premise of foresight is that the future can be actively influenced. So, where we might go or be directed to can be influenced by the strategies and policies we put in place.



Q&A

We are at the stage of identifying the root causes to the current situation, but one of the main problems that many institutions and governments face is defining their scope. They are unable to come together to identify the problems and so they cannot conduct a scenario planning process as there is no focus. What is the solution?

Planning requires multi-stakeholder engagement, for example, in the development of National Development Plans. Such events are ideal for encouraging people to talk about root causes or to unpack the barriers to a vision. During such a process it may be recognised that the different government agencies, NGOs, the UN and researchers need to all be working towards the solution. It can be a valuable exercise to do a root cause analysis on a policy to see if it is addressing the causes as opposed to the symptoms of an issue.

A **foresight process** works within **three core time zones**. There are sets of tools and methods that help us to look back into the past, to consider what is happening in the present and to anticipate the future. **The focus of the scenario process is on anticipating the future**.

Long-term planning is subject to great uncertainty. For example, when developing a long-term plan, the time frames can extend across multiple decades, or the plans may need to account for complex socioeconomic and biophysical systems. There are other external factors that affect the certainty of long-term planning, such as:

- Future climate impacts;
- Technological innovation and deployment;
- Policy development and implementation;
- Availability of large-scale solutions; and
- Reliability of current data, models and skills to interpret evidence.

When carrying out a scenario process, the key question to consider is **'what might happen that we have not thought about before?'**

For example, if the COVID-19 global pandemic had been an outcome of a scenario process and had been included in policy and put into practice we may have been better able to manage the situation.

What might happen that we have not thought about before?

Reminder: The premise of foresight is that the future is still in the making and can be actively influenced or even created.

The key question, **'what might happen that we have not thought about before?'** falls into the prospection step within the long-term future planning stage of the foresight framework. The premise of foresight is that the future is still in the making and can be actively influenced or even created.

SITUATIONAL ANALYSIS			LONG TERM FUTURE PLANNING			
Input	**Analysis**	**Interpretation**	**Plan**	**Prospection**	**Reflection**	**Strategy**
Context	What is happening?	Why is it happening?	What do we want to experience in the future? What might get in our way?	What might happen that we have not thought about?	What might we want to do differently?	What will we do differently?
			What might we do to get there?			

KEY TERM

Scenarios: Storylines / narratives, answering 'what if' questions that describe multiple alternative futures spanning a key set of critical uncertainties. Scenarios identify future drivers of change and then plot out plausible directions that they may take.

Scenarios are a method that helps us to think about possible future states and to understand how uncertainties might unfold in the future. The **key question** to ask is, **'what if?'**

For example, if in 2019 you were modelling public health pandemics and had said **'what if we had a global pandemic?'** the present situation may have been very different. Similarly, long-term planners in South Africa had run scenarios and had seen the possibility of political unrest in 2021 as a plausible future. This highlights the value of the scenario planning method, especially in policy and strategic planning, and how it can be used to capture uncertainties.

Scenarios are used as a method to **think about possible future states** and how uncertainties might play out.

Answering **'what if'** questions that describe multiple alternative futures spanning a key set of critical uncertainties.

A group of scenarios are alternative dynamic stories that **capture key ingredients of uncertainties of the future**. They reveal the implications of current trajectories, thus illuminating options for action.

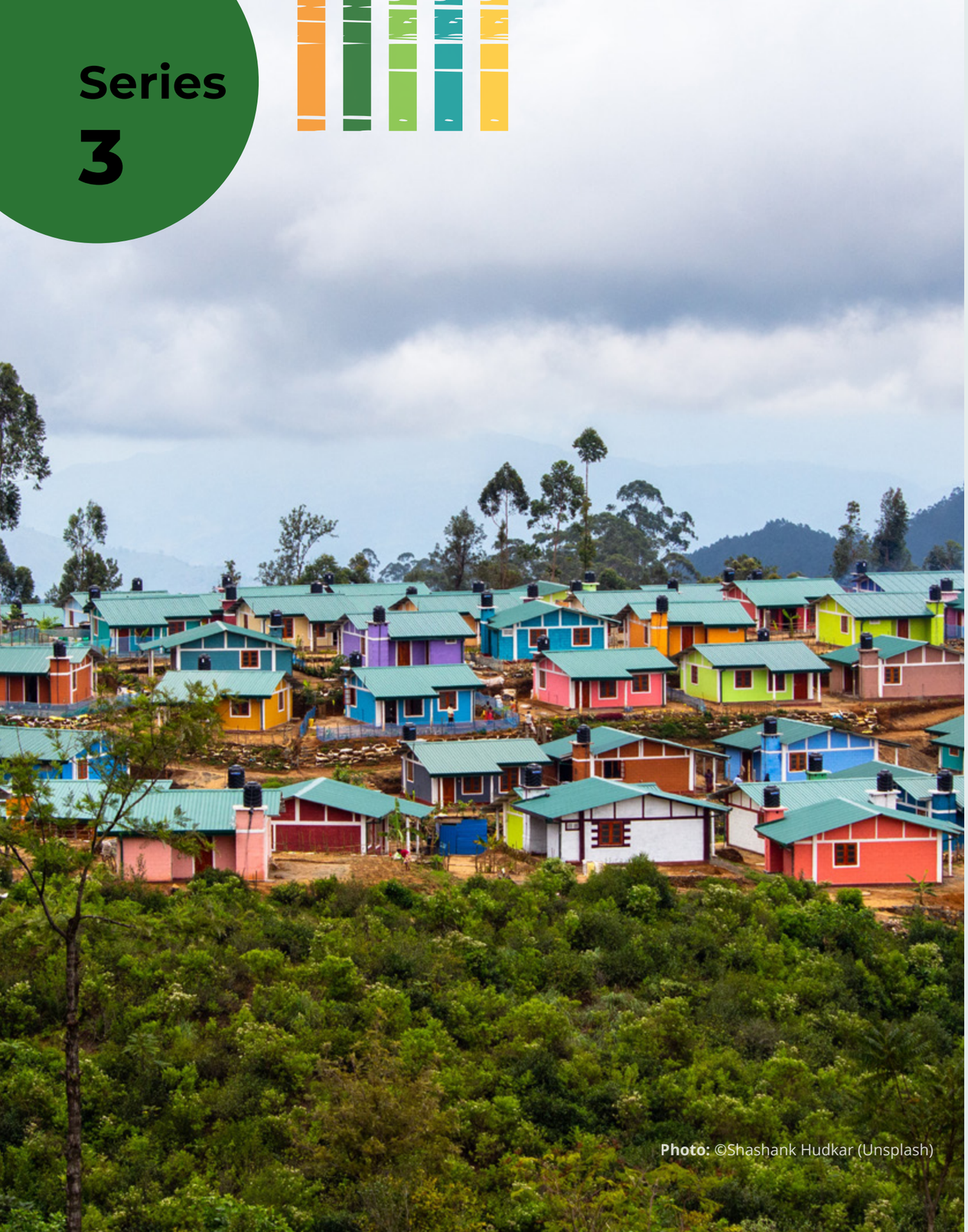


Photo: ©Shashank Hudkar (Unsplash)

Scenarios must be plausible; it needs to be reasonable to assume that a scenario might happen. This can be difficult, for example looking at the COVID-19 pandemic, some people would have said that a global pandemic is not plausible, and they would not have run a scenario process. It is also important to note here that scenarios are not a prediction of what will happen, they bring together qualitative and quantitative evidence as well as participatory multiple views to plan for the future but are not an exact prediction.

SCENARIOS MUST BE....

Plausible – it is reasonable to assume the scenario could happen. Plausibility does not mean that a future situation will happen.

Viable – able to be done or could occur.

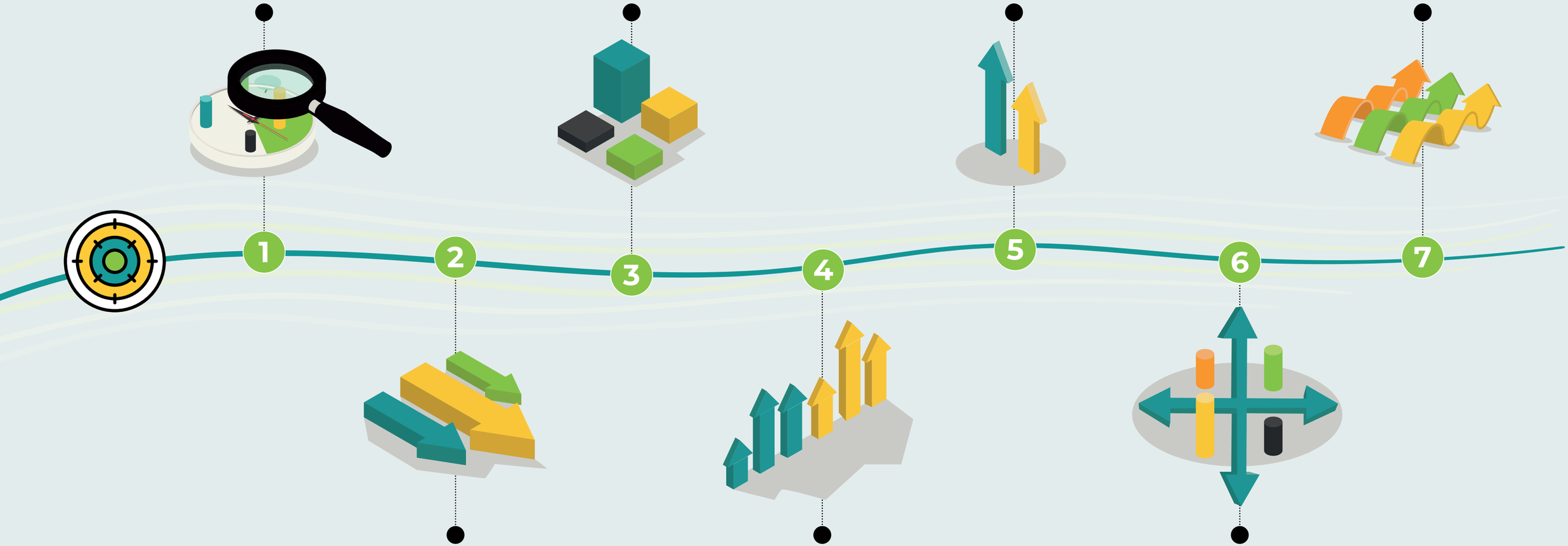
Feasible – possible and practical.

Not predictive – participatory with multiple viewpoints, bringing in quantitative and qualitative evidence but not predictive.

A scenario process is carried out over a number of steps. There are many different ways of building scenarios; the method demonstrated in this training is one of the simplest and most commonly used.

The **7-step process** starts with defining the focal issue and ends with building storylines. The first step of defining the focal issue and time frame was completed during the scope step in Series 1. **Step 2** requires identifying drivers of change in the system that you have defined.

BUILDING SCENARIO PROCESS



Series 3

A driver is a factor, an issue or a trend that may cause change that can affect or shape the future. There are internal drivers, for example, the future of a farm including the employees and their families could be affected by an individual farmer's decision. On the other hand, an external driver might affect the market prices within the village that the farm supplies.

Drivers – are factors, issues or trends that cause change thereby affecting or shaping the future

Internal driver – internal force of change for example social drivers within a farm or community and directing decision making of a farmer

External driver – external force of change, for example political or market drivers

Brainstorming drivers is best done in a group setting. You would identify and openly discuss the different drivers that could affect your system in question.

Series 3

The next step is to organise the drivers that you have brainstormed. This can be done using the **STEEP** framework. Some of the drivers may not fall into any of the **STEEP** categories and some may be applicable to two. What is important is that you develop the skills to categorise them.

Socio-cultural

Natural Resource Management (NRM) and Environment

Governance / Political / Institutional

Agriculture Productivity

Economic

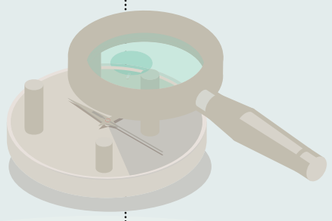
Photo: Top left - ©E.W. Cordon (ILRI), Bottom Left (CIAT)

Categorising drivers can be done by grouping post-it notes. This method is beneficial in terms of visual clarity.

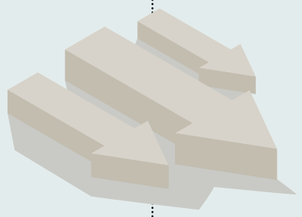
BUILDING SCENARIO PROCESS

With the second and third steps complete, the next step is to identify high impact and high uncertainty drivers.

1. **Define focal issue and relevant time frame**



2. **Identify and brainstorm drivers of change**



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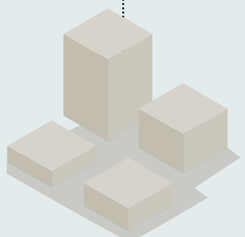
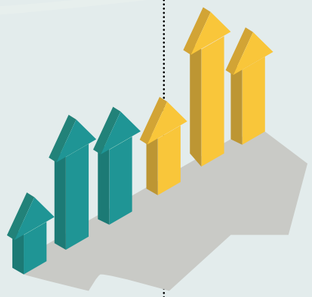
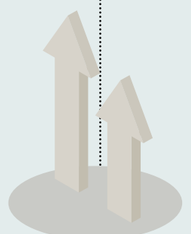


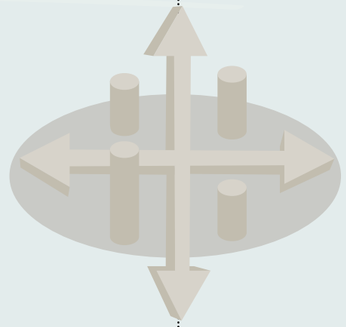
4. **Identify high impact & high uncertainty drivers**



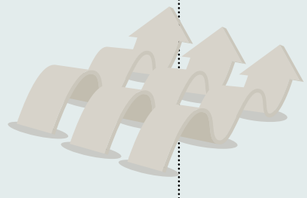
5. **Select high impact & high uncertainty drivers**



6. **Set up scenario axis**



7. **Build scenario storylines**



Series 3

Taking each of the drivers within the different categories, you need to ask: **'what is the scale of the impact of that driver?'** and **'how much is it going to affect the future?'** Then, to understand the uncertainty, you need to consider how certain or uncertain you are that the driver is going to play out.

For example, population growth can be modelled, and we can say with relative certainty how it will affect a given area. On the contrary, climate risk or extreme events are less certain. The purpose of this step is to identify these high impact and highly uncertain drivers, or critical uncertainties, and use them to inform the scenario axes.

Drivers – refers to the potential scale of impacts of the driver on your scenario theme

Uncertainty – in scenarios refers to how much or how clear we are on how a driver will emerge or play out in the future. High uncertainty does not mean 'high improbability', high uncertainty can mean having little knowledge of how something may pan out.

Critical uncertainties - are drivers that are both high impact and highly uncertain.

LEARNING EXERCISE

What driver do you think will be highly impactful in your country in the next 10 years?

"Technology"

"Politics"

"Information and communications technology"

"Water stress"

"Land degradation"

"Drought"

"Climate risk"

"Water and digital agriculture"

"Climate change"

"Markets"

"Policy change"

"Flooding"

KEY QUESTIONS

Key questions to consider when ranking a driver are:

'Is it low or high impact?' and **'is it high or low uncertainty?'** This is not always as straightforward as it seems.

Photo: ©Sonja Leitner (ILRI)

This is the type of table you would compile to rank your drivers. The table was completed using the theme of climate-resilient agri-food systems in the SADC region. In the brainstorming session it was suggested that 'expanding areas for major commodities' is a key driver of the agri-food system. The driver was then ranked according to how impactful it was thought to be. In this case the driver was considered to have a very high impact as it could affect critical system inputs.

The uncertainty was ranked as low because it could be modelled. Population growth was also considered to be highly impactful, but the uncertainty was ranked as low as again, it is fairly easy to model. The next driver considered was 'open borders' which implies free trade. This was deemed likely to have a high impact on the food system, but the certainty was ranked as low as it is difficult to predict the status of borders in 5-10 years' time. Lastly, the driver of 'export regulations' was considered.

To provide context, in the SADC region, one of the biggest impacts on the food system, especially beef, was the introduction of a European Union (EU) regulation on imports. This had a large impact on beef exports and production in countries such as Botswana. So, this impact was considered to be very high and very uncertain.

LET'S TAKE THE DRIVERS OF CHANGE IN FOOD SYSTEMS

Driver	Impact - how impactful they are (Low, High)	Uncertainty - how well we know how they will play out (Low, High)
Expanding areas for major commodities	**HIGH**	**LOW / MEDIUM**
Population growth	**HIGH**	**LOW**
Open borders	**HIGH**	**HIGH**
Export regulations	**HIGH**	**HIGH**
Climate Risk to agriculture	**HIGH**	**HIGH**

LEARNING EXERCISE

Climate variability as a driver is _____ in terms of its impact and is _____in terms of uncertainty on plant pest and diseases.

Driver	Impact - how impactful they are (Low, High)	Uncertainty - how well we know how they will play out (Low, High)
Climate variability	?	?

Q&A

What happens if we disagree on the ranking of drivers?

There are likely to be disagreements in these group planning sessions which emphasises the importance of robust evidence. At the top of the foresight framework, across all the stages, are the critical processes of evidence and stakeholder engagement, knowledge and creativity.

Climate variability, for example, may be considered as low uncertainty to those who have seen modelled data generated by a research institution. How the evidence is applied and incorporated with other knowledge systems when thinking about your plan is crucial. In foresight planning there is a need to unpack, question and be critical of all evidence pieces and viewpoints. If you cannot come to an agreement, you may need to revisit the evidence and do further research to continue with enhanced knowledge and confidence.

Foresight is not a linear process; when using the tools and methods, should you find that you do not have enough evidence do some more research and re-conduct the trends analysis; perhaps you missed one of the STEEP categories. As a foresight planner you need to progress with confidence in these approaches.

Series
3

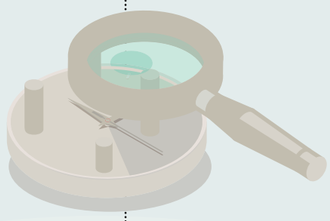
Photo: ©Axel Fassio (CIFOR)

The next step is to build a scenario axis with the high impact and high uncertainty drivers that you have identified.

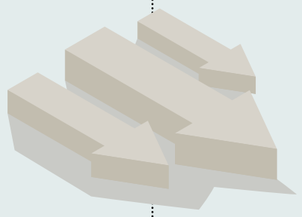
BUILDING SCENARIO PROCESS

The **next step is to set up a scenario axis.**

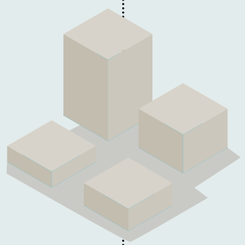
1 Define focal issue and relevant time frame



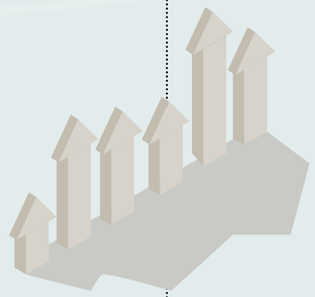
2 Identify and brainstorm drivers of change



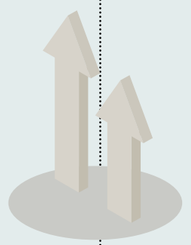
3 Group drivers into categories



4 Identify high impact & high uncertainty drivers

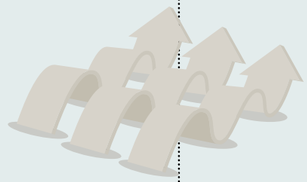


5 Select high impact & high uncertainty drivers



6 Set up scenario axis

7 Build scenario storylines



For example, the high impact and high uncertainty drivers of regional integration and youth employment can be juxtaposed on scenario axes. This allows us to look across the full spectrum of possibilities for the scenario and build storylines.

SCENARIO 1

National border closing to regional integration

Low youth unemployment to high youth unemployment

Regional integration / trade

LOW youth unemployment

HIGH youth unemployment

National borders closing

DIMENSIONS FOR BUILDING STORYLINES

Socio-cultural, education, gender, youth

Political / Institutional

Environmental state, ecosystem function, forest cover, soil health

Agriculture productivity: livestock, crops and aquaculture

Economic, investment and trade

Photo: ©Neil Palmer (CIAT)

The process for **developing storylines** requires unpacking the **scenarios** in each of the quadrants.

For example, in the case of good regional integration and high unemployment it is important to ask what the impact would be in terms of education, gender, investments and the environment.

Without the different dimensions to categorise the impacts it is quite likely that some of the impacts would be missed, depending on the expertise within your group.

Series 3

Regional integration / trade

Socio-cultural, education, gender, youth

Economic, investment and trade

Political / Institutional

Environmental state, ecosystem function, forest cover, soil health

Agriculture productivity: livestock, crops and aquaculture

Socio-cultural, education, gender, youth

Economic, investment and trade

Political / Institutional

Environmental state, ecosystem function, forest cover, soil health

Agriculture productivity: livestock, crops and aquaculture

LOW youth unemployment

HIGH youth unemployment

Socio-cultural, education, gender, youth

Economic, investment and trade

Political / Institutional

Environmental state, ecosystem function, forest cover, soil health

Agriculture productivity: livestock, crops and aquaculture

Socio-cultural, education, gender, youth

Economic, investment and trade

Political / Institutional

Environmental state, ecosystem function, forest cover, soil health

Agriculture productivity: livestock, crops and aquaculture

National borders closing

Series 3

So, for demonstrative purposes, consider the situation where we have closed borders and having high youth unemployment, and the first dimension in question is economic investment and trade.

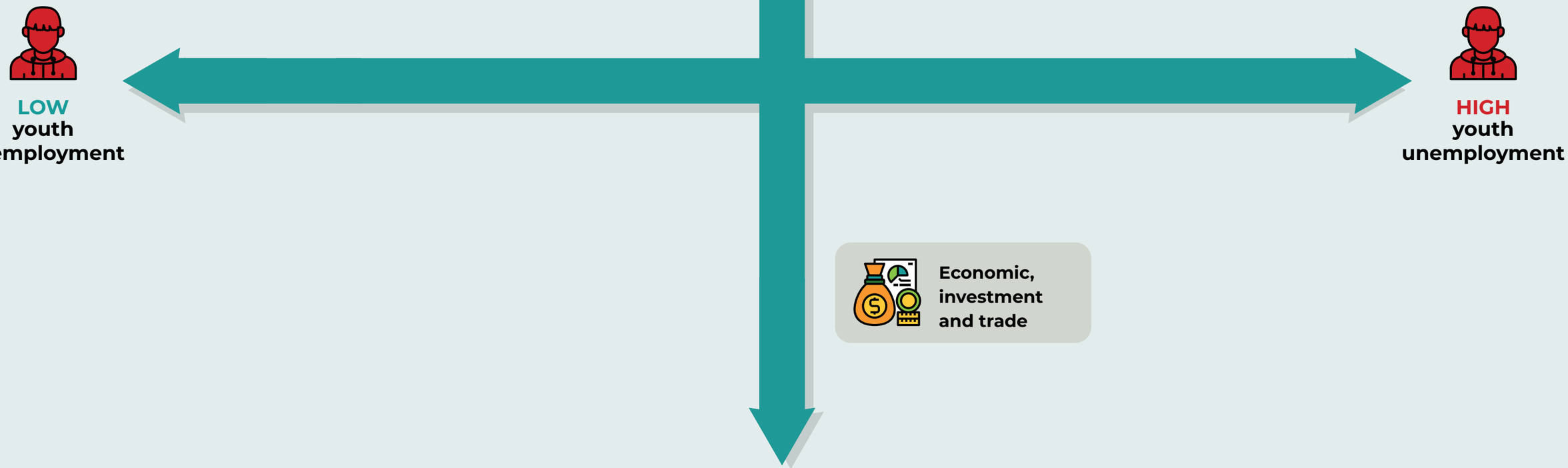


Photo: ©Axel Fassio (CIFOR)

LEARNING EXERCISE

Consider the quadrant with high youth unemployment and high nationalism (not well regionally integrated).

What does the future for the economy look like in 10 years' time with high youth unemployment and high nationalism or closed borders?

"Economic isolation"

"Bleak"

"Economic performance might be uncertain"

"Hunger for imported products"

"No economic growth"

"Economic crisis"

"High domestic innovation"

"Political unrest"

"Skewed economy towards the adult working class"

"Inflation"

This process would then be repeated for each of the **different dimensions and a storyline** slowly starts to unfold. For example, in considering the **political dimension**, there may be increased nationalism, or institutions may not address the food system because they are getting more competitive.

High youth unemployment would make it challenging to feed families so there may be an associated increase in degradation/deforestation, hunting and potential conflict. **Economically**, there could be a dramatic reduction in agricultural inputs being imported and a reduced availability of forex. **These impacts combine to form the storyline of a potential future.**

Series 3

HIGH youth unemployment

Socio-cultural, education, gender, youth

Potential loss of nutritional diversity, increased crime, reduced investment in education and youth, increased “competition” across society.

Political / Institutional

Increased nationalism, reduced types of institutions addressing food system, competition for leadership.

Economic, investment and trade

Dramatic reduction of food and agricultural inputs being imported, reduced forex.

Agriculture productivity: livestock, crops and aquaculture

Need for productivity increases but based on inputs within national border.

Environmental state, ecosystem function, forest cover, soil health

Unemployment leads to feed families, increases in deforestation, degradation of resources, increased hunting for bushmeat, potential conflict over transboundary waters?

National borders closing

Series 3

The next quadrant to unpack is low youth unemployment and good regional integration with a focus on the agricultural productivity dimension.

Regional integration / trade

Agriculture productivity: livestock, crops and aquaculture

LOW youth unemployment

HIGH youth unemployment

National borders closing

LEARNING EXERCISE

Consider the quadrant where you have low youth unemployment and high regional integration. Can you describe in a sentence what agricultural productivity might look in the future under this scenario?

"Economic boom"

"Youth engage more in agriculture"

"Migration"

"Innovation and collaboration"

"Positive economic growth"

"Mechanisation and economic growth"

"High productivity and economic growth"

"Food security"

"Inclusive rural economies and improved markets"

"Low imports and high exports- budget surpluses"

"Increase in agricultural exports"

"Youth employment"

"Zero hunger"

"External investors"

"Youth led innovation in agriculture"

Within the same **scenario**, the quadrant with the drivers of **high youth unemployment** and **closed national borders** would also need to be unpacked.

Impacts in the **socio-cultural dimensions** could be that governments have increased national budgets but have not focused resources on improved social safety nets, education and empowerment.

In the **agricultural dimension**, pastoralists, small scale farmers and fishers may be marginalised in favour of large-scale production systems. Impacts in the environmental dimension may include a desire for short-term benefits that lead to land and forest degradation.

Series 3

HIGH
youth unemployment

Socio-cultural, education, gender, youth

Governments have increased national budgets but may or may not focus resources on improved social safety nets, education and empowerment. Higher employment rates allow for greater spending power.

Agriculture productivity: livestock, crops and aquaculture

Pastoralists, small-scale farmers and fishers may be marginalized in favor of large-scale production systems. Integrated farming systems are not promoted.

Political / Institutional

Member countries are focused on economic development, poverty alleviation and peace and security.

Economic, investment and trade

SADC support to cross country results in effective trade, investments infrastructure, investments in short and long value chains. High employment rates influence national and international income, industry growth. Available resources inspire entrepreneurship, greater use of technology.

Environmental state, ecosystem function, forest cover, soil health

Desire for short term benefits leads to status quo for land management and potential for land and forest degradation.

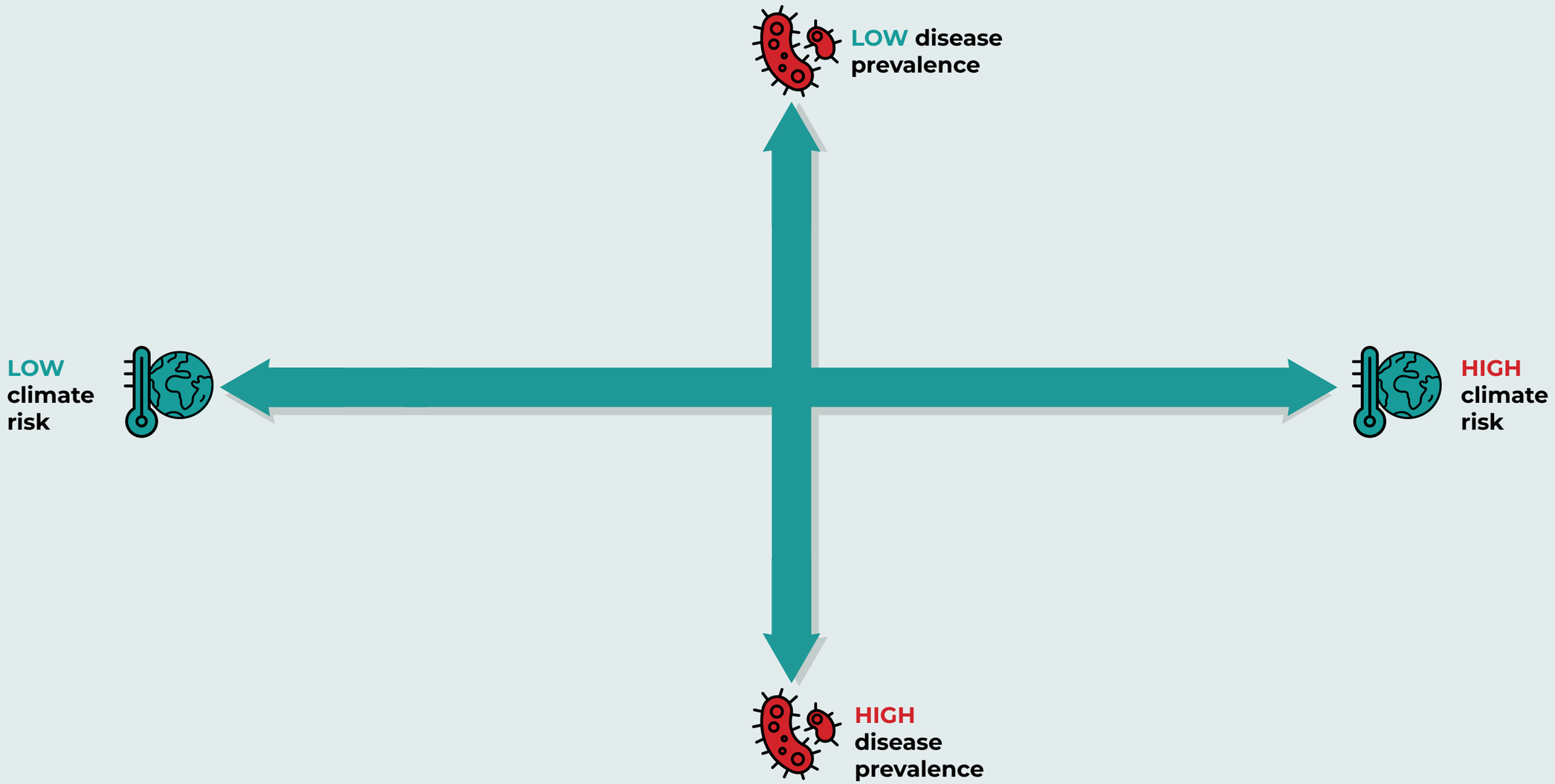
National borders closing

Another interesting scenario to unpack is one **incorporating the drivers of climate risk and disease prevalence**. The extremes (low-high) of these drivers are added to a scenario axes where high disease prevalence, low disease prevalence is one axis, and low climate risk and high climate risk forms the other axis.

SCENARIO 2

Low climate risk to high climate risk

Low disease prevalence / spread to high disease prevalence / spread



Series 3

If you were to unpack the quadrant relative to **high climate risk and high disease prevalence** you would find that the different dimensions are greatly impacted. For example, in the socio-cultural dimension you might identify the impact of a widening wealth gap, nutrition and food insecurity, a diminishment of social safety nets and enhanced disease prevalence.

In terms of the **agricultural productivity dimension**, impacts could include a loss of crops, a loss of livestock due to drought, reduced livelihood options, a reduction in national productivity and even an outbreak of conflict. In the **political dimension**, a likely impact could be an increase in power grabs and a move towards a more authoritarian type of governance.

HIGH climate risk

HIGH disease prevalence

Socio-cultural, education, gender, youth

Widening wealth gap, nutrition and food insecurity, school dropouts, greater impact on women - alternatively women farmers become more important, social safety nets are diminished, potential increases in displacement due to droughts, floods, enhanced disease prevalence; Inequitable impact of disease across society (poor and marginalized, elderly, women), health resources overstretched, district and backlash to lockdowns.

Agriculture productivity: livestock, crops and aquaculture

Loss of crops, livestock to drought, potential for greater climate disease risk, severe challenges meeting food security needs of population.

Environmental state, ecosystem function, forest cover, soil health

Reduced sources of livelihoods lead to enhanced conflict over resources leading to destruction, loss of wildlife, vegetative cover, forest, water quality, concerns over sources of disease lead to destruction of resources.

Political / Institutional

Likely power grabs by government leaders, move to more authoritarian government through shutdowns, loss of trust between GO and other societal sectors.

Economic, investment and trade

Dramatic reduction in national productivity and GDP, potential damage to infrastructure, focus on self-sufficiency (staples), closing of business across value chains.

Series 3

As you unpack the **four different quadrants** the **storyline** unfolds, and a picture of the potential future starts to become clearer. These storylines assist you in focusing your **plan of action**, i.e. to determine '**what you want to work on to ensure it does not happen'** or **'what you want to work on to ensure a desirable future happens.'**

Scenario story lines serve as plausible futures that provide insights into what may happen that we have not considered allowing us to plan accordingly.

Photo: ©Annie Spratt (Unsplash)

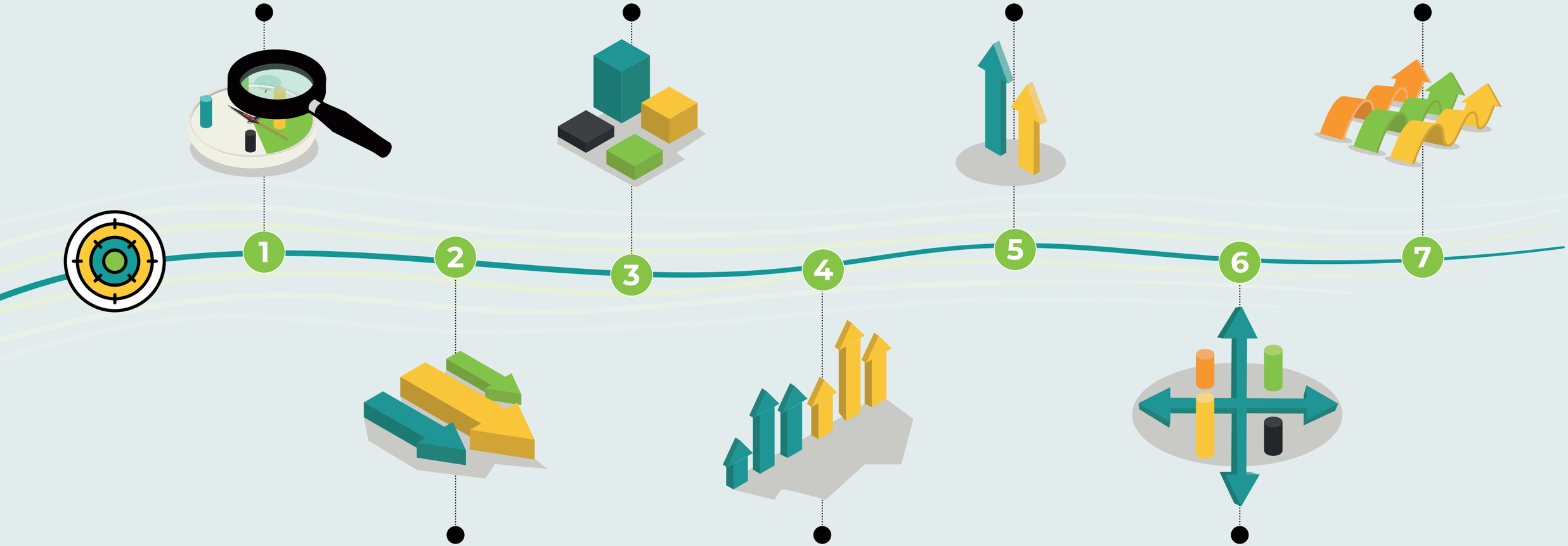
Q&A

It seems that foresight is like having many strategic innovations on the shelf to be applied or used when the need arises in the future, is that right?

It is important to be prepared for the future, for example, if COVID-19 had been built into our scenarios and planned for as a plausible future we may have had a stockpile of masks ready to use.

So, to recap, there are **seven key steps** in the **scenario building process** that have been demonstrated in this training. It is important to reiterate here that there are a **variety of different ways to do a scenario process**.

BUILDING SCENARIO PROCESS

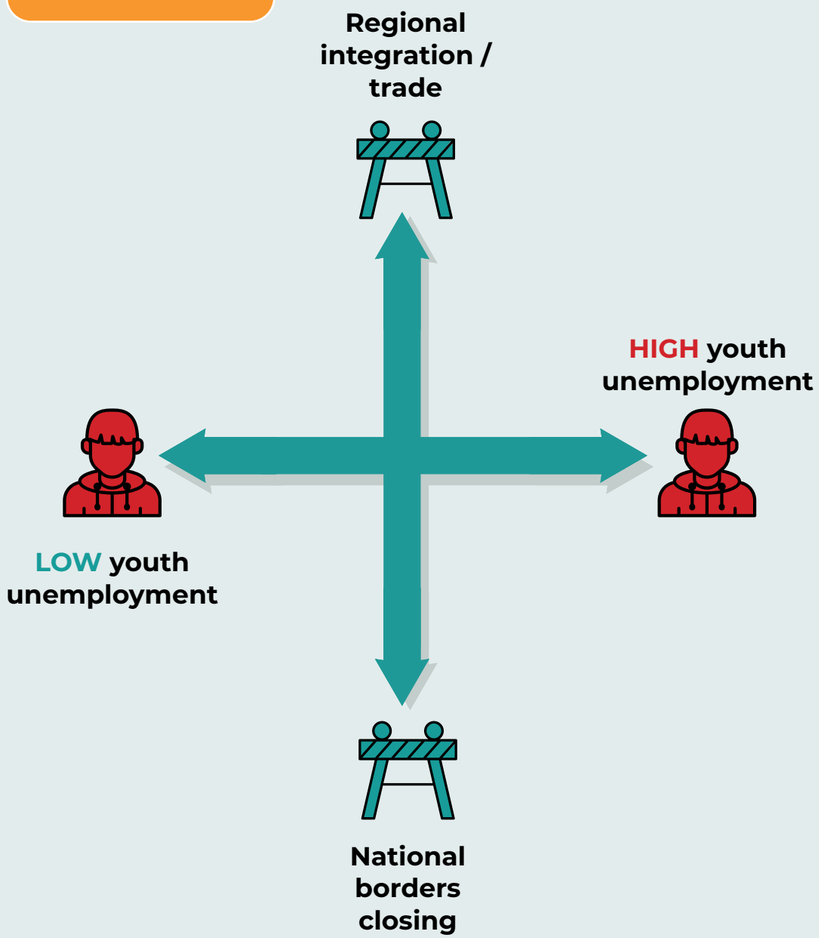


Series 3

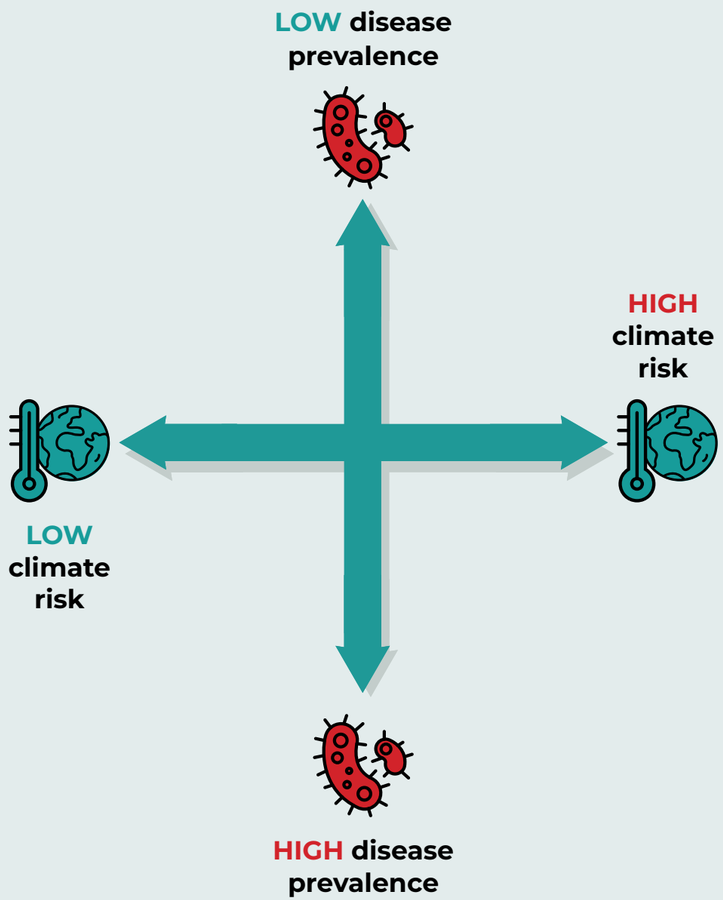
The value in a **scenario process** comes from **building multiple narratives, putting many different high impact and high uncertainty drivers against each other**.

For example, if we were only to unpack one set of drivers our understanding of the potential future would be very narrow. What we really want to do is group a variety of different and unusual drivers together to develop an **understanding of the complexity and the uncertainty of many plausible futures**.

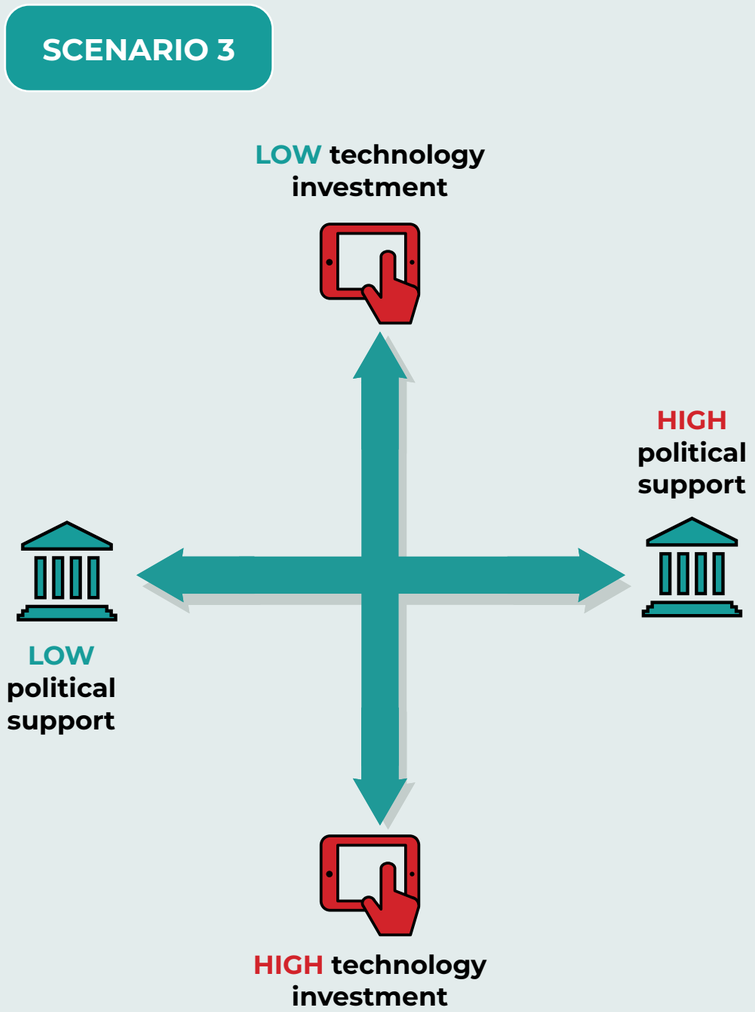
SCENARIO 1



SCENARIO 2



SCENARIO 3



Q&A

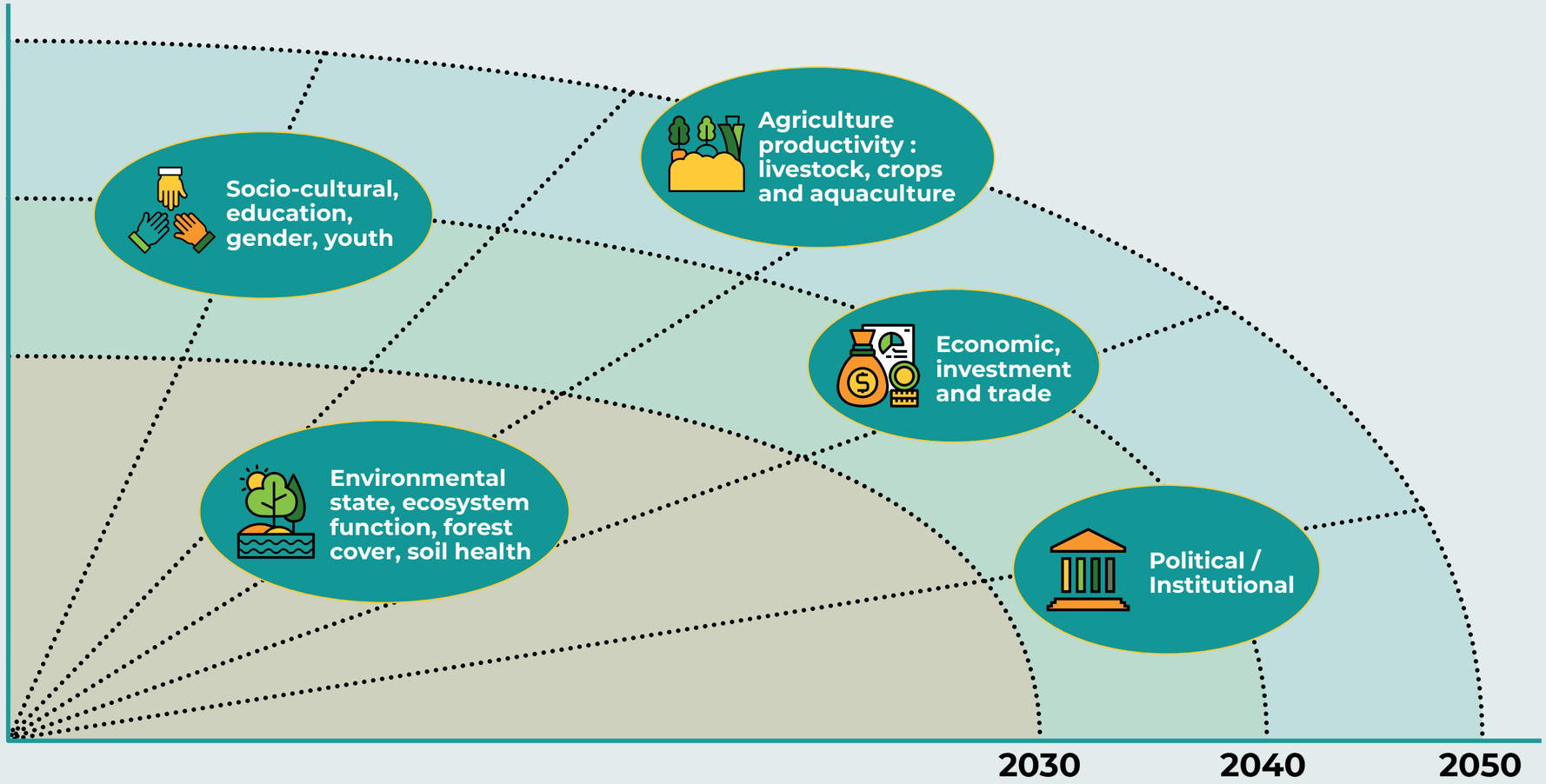
After running multiple scenarios, how do you then reconcile them into something that is comprehensive enough to inform planning and that takes barriers such as resource restrictions into account?

This question is covered in Series 4, it is a difficult area of scenario planning. One of the most important parts of the foresight process is putting an action plan together, and strategic and budgetary constraints are not uncommon.

In a **scenario process it is possible to apply different timelines**, for example, you may be planning towards 2030 but are also looking ahead to 2050. This could be the case if an **economic driver** results in a stoppage of trade, you might ask **'what is the impact going to be in five years' time?'** or **'what is the impact going to be in 10 years' time?'** These different time horizons can assist with the planning process.

For example, planners in Malawi are in the process of putting together a long-term vision to 2063. The scenario process is useful in such an activity as the impacts of drivers are identified and storylines for five years into the future emerge, and the planners can focus their policies and plans accordingly or amend existing strategies. The scenario process can also be used by planners to drive the positive storylines to fruition.

WHAT IS COMING OUT OF YOUR SCENARIO - ASPECTS IN THE NEXT 5-10 YEARS THAT NEED URGENT ATTENTION



Series
3

> True value lies in enhancing the 'cognitive agility' of planners by extending long-term thinking and exploring future developments

LEARNING OUTCOMES

The learning outcomes from this series on 'cultivating a climate-resilient future' include:

1. Dig into root causes of an issue and develop a system map.
2. Define what scenario planning is and how it helps to plan for uncertain futures.
3. Understand the steps for developing scenarios.
4. Build story lines across different dimensions.

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